

April 10, 2003

Mr. Robert Mead  
Precoat Metals Division Sequa Coatings Corporation  
4800 South Kilbourn Avenue  
Chicago, Illinois 60632

Re: 127-12035  
Minor Source Modification to:  
Part 70 permit No.: T127-6025-00005

Dear Mr. Mead:

Precoat Metals Division Sequa Coatings Corporation was issued Part 70 operating permit T127-6025-00005 on February 10, 1999 for a metal coil coating operation. An application to modify the source was received on March 15, 2000. Pursuant to 326 IAC 2-7-10.5, the modification which involves increase in utilization of the existing metal coil coating production line qualifies as a minor source modification, since its VOC emission increase was limited to less than 25 tons/year. The line consists of the following:

**Emission Units and Pollution Control Equipment**

- (a) One (1) coil coating line consisting of the following:
  - (1) A Prime Coating Section (PCS), constructed in 1971, consisting of one (1) prime coater, identified as EU1, with a maximum capacity of 883 pounds of VOC per hour (2.0 gal VOC/min), using one (1) 5.38 million British thermal units per hour (mmBtu/hr) regenerative thermal oxidizer with waste heat boiler identified as EU4/CE-1 as control, one (1) 33.6 mmBtu/hr prime curing oven, identified as EU2 exhausting to one (1) stack, identified as S-1 and one (1) prime water cooler, identified as EU3, exhausting to one (1) stack, identified as S-2. The regenerative thermal oxidizer exhausts to stack S-1 and the waste heat boiler will exhaust to stack S-14.
  - (2) A Finish Coating Section (FCS), constructed in 1971, consisting of one (1) finish coater, identified as EU5, with a maximum capacity of 1142 pounds of VOC per hour (3.75 gal/min) using one (1) 18.2 mmBtu/hr recuperative thermal oxidizer identified as EU8/CE-2, one (1) 37.6 mmBtu/hr finish curing oven, identified as EU6, all exhausting to one (1) stack, identified as EU6 all exhausting to one (1) stack, identified as S-3 and one (1) finish water cooler, identified as EU7, exhausting to one (1) stack, identified as S-4.

**Insignificant Activities**

- (a) Natural gas fired combustion sources with heat input equal to or less than ten (10) million Btu per hour.

- (b) One (1) lime slurry mix tank, capable of mixing hydrated lime at a rate of 500 pounds per hour, using a baghouse to control the PM emissions.
- (c) One (1) chemical pretreatment section including two (2) alkaline cleaners, two (2) scrubber brushes, two (2) hot water rinses, two (2) chemical treatments and one (1) final chemical rinse. An exhaust hood conveys water vapor from the cleaners, scrubber brushes and hot water rinse tanks.
- (d) One (1) chemical coater for applying non-organic coatings and one (1) gas-fired infrared oven for drying the applied non-organic coatings, identified as EU11, exhausting to Stack S-13. This chemical coater will create the debottleneck in the pretreatment section and will allow the coating line to operate at a maximum speed of 800 feet per minute.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

- 1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
- 2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
- 3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
- 4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
- 5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
- 6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction when the source modification has been issued. The source must comply with the requirements of 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12 before operation of any of the proposed emission units can begin.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.  
If you have any questions on this matter call (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Original signed by Paul Dubenetzky  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments

APD

cc: File - Porter County  
Porter County Health Department  
Northwest Regional Office  
Air Compliance Section Inspector - Dave Sampias  
Compliance Data Section - Karen Nowak  
Administrative and Development  
Technical Support and Modeling - Michele Boner

**PART 70 OPERATING PERMIT MINOR  
SOURCE MODIFICATION  
OFFICE OF AIR MANAGEMENT**

**Precoat Metals Division Sequa Coatings Corporation  
U.S. Highway 12 and Route 249  
Portage, Indiana 46368**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T127-12035-00005	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Chief Permit Branch Office of Air Quality	Issuance Date: April 10, 2003

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 2-7-5(15)]

- (1) One (1) coil coating line consisting of the following:
- (a) A Prime Coating Section (PCS), constructed in 1971, consisting of one (1) prime coater, identified as EU1, with a maximum capacity of 883 pounds of VOC per hour (2.0 gal VOC/min), using one (1) 5.38 million British thermal units per hour (mmBtu/hr) regenerative thermal oxidizer with waste heat boiler identified as EU4/CE-1 as control, one (1) 33.6 mmBtu/hr prime curing oven, identified as EU2 exhausting to one (1) stack, identified as S-1 and one (1) prime water cooler, identified as EU3, exhausting to one (1) stack, identified as S-2. The regenerative thermal oxidizer exhausts to stack S-1 and the waste heat boiler will exhaust to stack S-14.
  - (b) A Finish Coating Section (FCS), constructed in 1971, consisting of one (1) finish coater, identified as EU5, with a maximum capacity of 1142 pounds of VOC per hour (3.75 gal/min) using one (1) 18.2 mmBtu/hr recuperative thermal oxidizer identified as EU8/CE-2, one (1) 37.6 mmBtu/hr finish curing oven, identified as EU6, all exhausting to one (1) stack, identified as EU6 all exhausting to one (1) stack, identified as S-3 and one (1) finish water cooler, identified as EU7, exhausting to one (1) stack, identified as S-4.

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.1.1 Emission Offset [326 IAC 2-3]

The VOC input usage from both the Prime Coating Section and Finish Coating Section shall be limited to 2,623.4 tons per twelve consecutive month period, with compliance demonstrated at the end of each month. The Coil Coating Line's capture system, and Recuperative and Regenerative Thermal Oxidizers shall be operated at 90% overall control efficiency. This VOC usage limitation in conjunction with the operation of the Coil Coating Line's capture system, and Recuperative and Regenerative Thermal Oxidizers at 90% overall control efficiency shall restrict the VOC emissions to less than 262.34 tons per twelve consecutive month period. Compliance with these limits shall make 326 IAC 2-3, Emission Offset rules not applicable.

#### D.1.2 Coil Coating Operations [326 IAC 8-2-4] [326 IAC 8-1-2]

- (a) Pursuant to 326 IAC 8-2-4 (Coil Coating Operations), the Permittee shall not allow the discharge into the atmosphere of any volatile organic compound (VOC) in excess of 0.31 kilogram per liter of coating (2.6 pound per gallon) excluding water, delivered to the coating applicator from Prime Coating and Finish Coating operations.
- (b) Pursuant to 326 IAC 8-1-2(b), the coil coating line (Prime Coating and Finish Coating Operations) shall be limited to no greater than the equivalent limit of 4.02 pounds of VOC per gallon of coating solids as allowed in (a) of this condition. This equivalent limit shall be determined using the following equation:

$$E = \frac{L}{1 - L/D}$$

Where: L = Applicable emission limit from this article in pounds of VOC per gallon of coating.

D = Density of VOC in coating in pounds per gallon of VOC.

E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.

- (c) Pursuant to 326 IAC 8-1-2(c) the overall control efficiency of the thermal oxidizer shall be no less than the equivalent overall efficiency of 85% and the daily weighted average VOC content of all the coatings applied shall not exceed 26.12 pounds per gallon solids. This overall efficiency shall however, be satisfied by the overall efficiency of 90% required in Condition D.1.1 to avoid the applicability of 326 IAC 2-3, Emission Offset rules. 326 IAC 8-1-2(c) required overall efficiency shall be calculated using the following equation:

$$O = \frac{V - E}{V} \times 100$$

Where:

- V = The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in 326 IAC 8-1-4 in units of pounds of VOC per gallon of coating solids as applied.
- E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.
- O = Equivalent overall efficiency of the capture system and control device as a percentage.

**D.1.3 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]**

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 60, Subpart TT.

**D.1.4 Metal Coil Surface Coating NSPS [326 IAC 12-1-1] [40 CFR 60, Subpart TT]**

This Coil Coating Line (Prime Coating and Finish Coating Operations) is subject to 40 CFR 60, Subpart TT, which is incorporated by reference in 326 IAC 12-1-1. The Permittee shall not cause to be discharged into the atmosphere greater than:

- (a) 0.14 kilogram VOC per liter of coating solids (1.17 pounds per gallon) applied for each calendar month for the Prime Coating and Finish Coating Operations that continuously use a thermal oxidizer operated at the most recently demonstrated overall efficiency; or
- (b) 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device operated at the most recently demonstrated overall efficiency;
- (c) 0.28 kilogram VOC per liter (kg VOC/l) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or
- (d) A value between 0.14 (or a 90-per-cent emission reduction) and 0.28 kg VOC/l of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.

**D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the coil coating line and any control devices.

### **Compliance Determination Requirements [ 326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

#### **D.1.6 National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63)**

Pursuant to 40 CFR Part 63, Subpart SSSS - National Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil, the source is an existing major source for hazardous air pollutants (HAPs), and shall comply with this NESHAP three (3) years after June 3, 2002.

#### **D.1.7 Regenerative and Recuperative Thermal Oxidizers**

The Regenerative and Recuperative Thermal Oxidizers shall be in operation at all times the Prime Coating and Finish Coating Sections are in operation, except when the coatings applied are below the limits in 326 IAC 2-3, 326 IAC 8-2-4 and the NSPS, 40 CFR Part 60.460, Subpart TT.

#### **D.1.8 Thermal Oxidizer**

The Permittee shall install calibrate, operate and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with the VOC limits in conditions D.1.1 and D.1.2. This system shall have an accuracy of  $\pm 2.5^{\circ}\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater.

#### **D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

- (a) Within sixty (60) days after achieving the maximum production rate from the Coil Coating Line's increase utilization but no later than 180 days after initial startup of this modification, the Permittee shall conduct compliance stack test to verify the Coating Line's VOC emissions, capture system and its Regenerative and Recuperative Thermal Oxidizers control efficiencies used to attain compliance with the VOC limits in conditions D.1.1, D.1.2 and D.1.4 using methods as approved by the Commissioner. This test shall be repeated at least once every two and half (2.5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing of the Part 70 Permit.
- (b) The Permittee shall establish the hourly average temperature, minimum operating temperature, duct pressure and fan amperage for the Regenerative and Recuperative Thermal Oxidizers from the most recent compliance stack test used to attain compliance with the VOC limits in conditions D.1.1, D.1.2 and D.1.4.

#### **D.1.10 Testing Requirements [326 IAC 12] [40 CFR 60.463]**

- (a) The Permittee shall conduct an initial performance test as required under 40 CFR 60.8(a) within 60 days after achieving the maximum production rate from the Coil Coating Line's increase utilization but no later than 180 days after initial startup of this modification and such other times as maybe required by the Administrator or IDEM, OAQ under section 114 of the Act and thereafter a performance test for each calendar month for each affected facility according to the procedures under condition D.1.10(b), (c), (d), and (e). **Note: Each monthly calculation is a performance test.**
- (b) The Permittee shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's to comply with the emission limit specified under condition D.1.4:
  - (1) determine the overall reduction efficiency (R) for the capture system and the control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in paragraphs (b)(1), (2), and (3) of this section. In

subsequent months, the Permittee may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in paragraphs (b)(1)A), and (3) of this section, shall be repeated when directed by the Administrator, IDEM, OAQ or when the Permittee elects to operate the control device or capture system at conditions different from the initial performance test.

- (A) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^I C_{bi} Q_{bi}}{\sum_{i=1}^I C_{bi} Q_{bi} + \sum_{i=1}^p C_{fi} Q_{fi}}$$

Where:

- $C_b$  = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).  
 $Q_b$  = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).  
 $C_{fi}$  = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).  
 $Q_{fi}$  = the volumetric flow rate of each gas stream emitted directly to the atmosphere.  
 $I$  = the number of gas streams entering the control device, and  
 $p$  = the number of gas streams emitted directly to the atmosphere.

- (B) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^n C_{bi} Q_{bi} - \sum_{i=1}^m C_a Q_a}{\sum_{i=1}^n C_{bi} Q_{bi}}$$

Where:

- $C_a$  = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).  
 $Q_a$  = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).  
 $n$  = the number of gas streams entering the control device, and  
 $m$  = the number of gas streams leaving the control device and entering the atmosphere.

The Permittee shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in § 60.466.



- (C) Determine overall reduction efficiency (R) using the following equation:

$$R = EF$$

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as specified in sections (c) and (d) below.

- (2) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month for each affected facility, using equations in paragraphs (c)(1)(A), (B) and (C) of 40 CFR 60.463 as follows:

- (A) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

Where:

$M_o$  = Mass of VOC's in coatings consumed, as received in kilogram (kg)

$M_d$  = Mass of VOC-solvent added to the coatings, in kg

$L_c$  = the volume of each coating consumed, as received in liters

$L_d$  = the volume of each VOC-solvent added to the coatings in liters (l)

$W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)

$D_d$  = density of each VOC-solvent added to the coatings (kg/l)

$\sum L_{dj} D_{dj}$  = will be 0 if no VOC solvent is added to the coatings, as received

$n$  = the number of different coatings used during calendar month, and

$m$  = the number of different VOC solvents added to coatings used during the calendar month.

- (B) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n V_{si} L_{ci}$$

Where:

$V_s$  = the proportion of solids in each coating, as received (fraction by volume).

$L_c$  = the volume of each coating consumed, as received in liters

$L_s$  = total volume of solids used in a calendar month

$n$  = the number of different coatings used during the calendar month.

- (C) Calculate the volume-weighted average mass of VOC's used per unit volume of coating solids applied (G) during the calendar month for each

affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s}$$

- (3) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G (1-R)$$

- (4) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/l of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.
- (c) The Permittee shall use the following procedures for each affected facility that does not use a capture system and control device to comply with the emission limit specified under D.1.4(c) of this permit:
- (1) determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Method 24. The Administrator may require the Permittee who uses formulation data supplied by the manufacturer of the coatings to determine the VOC content of coatings using Method 24 or an equivalent or alternative method. The Permittee shall determine the volume of coating and the mass of VOC solvent added to coatings from company records on a monthly basis.
  - (2) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied during each calendar month for each affected facility, except as provided under paragraph (c)(1)(iv) of 40 CFR 60.463. The weighted average of the total mass of VOC's used per unit volume of coating solids applied each calendar month is determined as follows:
    - (A) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

Where:

$M_o$  = Mass of VOC's in coatings consumed, as received in kilogram (kg)

$M_d$  = Mass of VOC-solvent added to the coatings, in kg

$L_c$  = the volume of each coating consumed, as received in liters

$L_d$  = the volume of each VOC-solvent added to the coatings in liters (l)

$W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)

$D_d$  = density of each VOC-solvent added to the coatings (kg/l)

$\sum L_{dj} D_{dj}$  = will be 0 if no VOC solvent is added to the coatings, as received

$n$  = the number of different coatings used during calendar month,

and  
 $m =$  the number of different VOC solvents added to coatings used during the calendar month.. The weighted average of the total mass of VOC's used per unit volume of coating solids applied each calendar month is determined by the following procedures.

- (B) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n V_{si} L_{ci}$$

Where:

$V_s$  = the proportion of solids in each coating, as received (fraction by volume).  
 $L_c$  = the volume of each coating consumed, as received in liters  
 $L_s$  = total volume of solids used in a calendar month  
 $n$  = the number of different coatings used during the calendar month.

- (C) Calculate the volume-weighted average mass of VOC's used per unit volume of coating solids applied ( $G$ ) during the calendar month for each affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s}$$

- (3) Calculate the volume-weighted average of VOC emissions to the atmosphere ( $N$ ) during the calendar month for each affected facility by the following equation:

$$N = G$$

- (4) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied ( $N$ ) is equal to or less than 0.28 kg/l the affected facility is in compliance.
- (5) If each individual coating used by an affected facility has a VOC content, as received, that is equal to or less than 0.28 kg/l of coating solids, the affected facility is in compliance provided no VOC 's are added to the coatings during distribution or application.

- (d) The Permittee shall use the following procedures for each affected facility that intermittently uses a capture system and a control device to comply with the emission limit specified in Condition D.1.4(d):

- (1) Calculate the total volume of coating solids applied without the control device in operation ( $L_{sn}$ ) during each calendar month for each affected facility using the following equation:

$$L_{sn} = \sum_{i=1}^n V_{si} L_{ci}$$

Where:

- $n$  = the number of coatings used during the calendar month without the control device in operation.  
 $V_s$  = the proportion of solids in each coating, as received (fraction by volume).  
 $L_c$  = the volume of each coating consumed, as received in liters

- (2) Calculate the total volume of coating solids applied with the control device in operation ( $L_{sc}$ ) during each calendar month for each affected facility using the following equation:

$$L_{sc} = \sum_{i=1}^n V_{si} L_{ci}$$

- (3) Calculate the mass of VOC's used without the control device in operation ( $M_{on} + M_{dn}$ ) during each calendar month for each affected facility using the

following equation:

$$M_{on} + M_{dn} + \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{di}$$

Where:

- $M_o$  = the mass of VOC's in coatings consumed, as received (kg)  
 $M_d$  = the mass of VOC-solvent added to coatings (kg)  
 $L_c$  = the volume of each coating consumed, as received (liters)  
 $D_c$  = density of each coating, as received (kg/liter)  
 $W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)  
 $n$  = the number of different coatings used without the control device in operation during the calendar month  
 $m$  = number of different VOC-solvents added to coatings used without the control device in operation during the calendar month

- (4) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied without the control device in operation ( $G_n$ ) during each calendar month of each affected facility using the following equation:

$$G_n = \frac{M_{on} + M_{dn}}{L_{sn}}$$

- (5) Calculate the mass of VOC's used with the control device in operation ( $M_{oc} + M_{dc}$ ) During each calendar month for each affected facility using the following equation:

$$M_{oc} + M_{dc} = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{di}$$

- (6) Calculate the volume-weighted average of the total mass of VOC's used per unit volume of coatings solids applied with the control device in operation ( $G_c$ ) during each calendar month for each affected facility using the following equation:

$$G_c = \frac{M_{oc} + M_{dc}}{L_{sn}}$$

- (7) Determine the overall reduction efficiency (R) for the capture system and control device using the procedures in paragraphs (c)(2)(i) (A), (B) and (C) or paragraphs (c)(3) (i), (ii), and (iii) of 60.463 whichever is applicable.
- (8) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month for each affected facility using the following equation:

$$N = \frac{G_n L_{sn} + G_c L_{sc} (1-R)}{L_{sn} + L_{sc}}$$

- (9) Calculate the emission limit for each calendar month for each affected facility using the following equation:

$$S = \frac{0.28 L_{sn} + 0.1 G_c L_{sc}}{L_{sn} + L_{sc}}$$

Or

$$S = \frac{0.28 L_{sn} + 0.14 L_{sc}}{L_{sn} + L_{sc}}$$

whichever is greater

- (10) If the volume weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to the calculated emission limit (S) for the calendar month, the affected facility is in compliance. Each month calculation is a performance test.

#### D.1.11 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Condition D.1.1, D.1.2 and D.1.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

#### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

##### D.1.12 Monitoring

- (a) Pursuant to 326 IAC 2-3, Emission Offset requirements in Condition D.1.1, a continuous monitoring system shall be calibrated, maintained, and operated on the Recuperative and Regenerative Thermal Oxidizers for measuring operating temperature. The output of this system shall be recorded as an hourly average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the hourly average temperature of 1299 °F and 1636 °F respectively.
- (b) Pursuant to 326 IAC 12-1-1 and 40 CFR 60, Subpart TT, The Permittee shall record all period (during actual coating operations) in excess of 3 hours during which the average temperature in the Recuperative and Regenerative Thermal Oxidizers used to control VOC emissions from an affected facility remains more than 28 °C (50 °F) below the

temperature at which compliance with VOC limits in D.1.2, and D.1.4 was demonstrated during the most recent measurement of the Recuperative and Regenerative Thermal Oxidizers efficiencies. Until a compliance stack test is performed, the Permittee shall operate these oxidizers at or above the 3 hour average temperature of 1299 °F and 1636 °F respectively, determined in the June 2002 stack test.

- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### **D.1.13 Record Keeping Requirements [326 IAC 8-1-2] [326 IAC 12] [40 CFR 60.465]**

---

- (a) To document compliance with Conditions D.1.1, D.1.2 and D.1.4, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1, D.1.2 and D.1.4.
  - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) A log of the dates of use;
  - (3) The cleanup solvent usage for each month;
  - (4) The total VOC usage for each month; and
  - (5) The weight of VOCs emitted for each compliance period.
- (b) Following the initial performance test, the Permittee shall identify, and record every calendar quarter of each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under D.1.4. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to IDEM, OAQ, quarterly.
- (c) The continuous temperature records (on an hourly average basis) for the thermal oxidizers used to demonstrate compliance with the limits in D.1.1 as determined during the most recent compliance stack test.
- (d) Daily records of the duct pressure or fan amperage.
- (e) The Permittee shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. The Permittee shall maintain, at the source, daily records of the thermal oxidizer combustion temperature.
- (f) To document compliance with Condition D.1.12(b), the Permittee shall also record all periods (during actual coating operations) in excess of three (3) hours during which the average temperature in EU4/CE-1 or EU8/CE-2 (the oxidizers used to control emissions) remains more than 28EC (50EF) below the temperature at which compliance with the

limits in D.1.2 and D.1.4 was demonstrated during the most recent measurement of oxidizer efficiency. The records shall identify each such occurrence and its duration.

- (g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.14 Reporting Requirements

---

- (a) Pursuant to 326 IAC 2-3, a quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted using the reporting forms located at the end of this permit or their equivalent within thirty (30) days after the end of each quarter being reported to the following address:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (b) Pursuant to 326 IAC 12-1-1 and 40 CFR 60, Subpart TT -Metal Coil Surface Coating NSPS, the Permittee shall submit a quarterly summary of the following information within thirty (30) days after the end of each quarter being reported to the following address:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (1) Where compliance with the numerical limit specified in D.1.4(c) is achieved through the use of low VOC-content coatings without emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this subpart shall include in the initial compliance report required by § 60.8 the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility.
- (2) Where compliance with the numerical limit specified in D.1.4(d) is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.
- (3) Following the initial performance test, the Permittee shall identify, record, and submit a written report to the OAQ every calendar quarter of each instance in which the volume-weighted average of the local mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under Condition D.1.4. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the OAQ quarterly.
- (4) The Permittee shall include in the quarterly reports, instances when the thermal oxidizer temperature drops as defined under D.1.12. If no such periods occur, the owner or operator shall state this in the report.

- (5) Pursuant to 40 CFR 60.465, The Permittee subject to the provisions of this subpart shall include the following data in the initial compliance report required by 40 CFR 60.8:
  - (A) The overall VOC destruction rate used to attain compliance with D.1.4;  
and
  - (B) The combustion temperature of the thermal incinerator, used to attain compliance with condition D.1.4.



**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Minor Source Modification Quarterly Report**

Source Name: Precoat Metals Division Sequa Coatings Corporation  
Source Address: U. S. Highway 12 and Route 249, Portage, Indiana 46368  
Mailing Address: 4800 South Kilbourn Avenue, Chicago, Illinois 60632  
Part 70 Permit No.: T127-6025-00005  
Facility: Coil Coating Line  
Parameter: VOC Usage  
Limit: 2,623.4 tons per twelve consecutive month period, with compliance demonstrated at the end of each month

QUARTER \_\_\_\_\_ YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Part 70 Minor Source Modification and Minor Permit Modification

#### Source Background and Description

Source Name:	Precoat Metals Division of Sequa Coatings Corporation
Source Location:	U.S. Highway 12 and Route 249
County:	Porter
SIC Code:	3479
Operation Permit No.:	T127-6025-00005
Operation Permit Issuance Date:	February 10, 1999
Minor Source Modification No.:	127-12035
Minor Permit Modification:	127-17115
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed a modification application from Precoat Metals Division of Sequa Coatings Corporation relating to the increase in utilization of the existing metal coil coating production line. The line consists of the following:

#### Emission Units and Pollution Control Equipment

- (a) One (1) coil coating line consisting of the following:
- (1) A Prime Coating Section (PCS), constructed in 1971, consisting of one (1) prime coater, identified as EU1, with a maximum capacity of 883 pounds of VOC per hour (2.0 gal VOC/min), using one (1) 5.38 million British thermal units per hour (mmBtu/hr) regenerative thermal oxidizer with waste heat boiler identified as EU4/CE-1 as control, one (1) 33.6 mmBtu/hr prime curing oven, identified as EU2 exhausting to one (1) stack, identified as S-1 and one (1) prime water cooler, identified as EU3, exhausting to one (1) stack, identified as S-2. The regenerative thermal oxidizer exhausts to stack S-1 and the waste heat boiler will exhaust to stack S-14.
  - (2) A Finish Coating Section (FCS), constructed in 1971, consisting of one (1) finish coater, identified as EU5, with a maximum capacity of 1142 pounds of VOC per hour (3.75 gal/min) using one (1) 18.2 mmBtu/hr recuperative thermal oxidizer identified as EU8/CE-2, one (1) 37.6 mmBtu/hr finish curing oven, identified as EU6, all exhausting to one (1) stack, identified as EU6 all exhausting to one (1) stack, identified as S-3 and one (1) finish water cooler, identified as EU7, exhausting to one (1) stack, identified as S-4.

#### Insignificant Activities

- (a) Natural gas fired combustion sources with heat input equal to or less than ten (10)

million Btu per hour.

- (b) One (1) lime slurry mix tank, capable of mixing hydrated lime at a rate of 500 pounds per hour, using a baghouse to control the PM emissions.
- (c) One (1) chemical pretreatment section including two (2) alkaline cleaners, two (2) scrubber brushes, two (2) hot water rinses, two (2) chemical treatments and one (1) final chemical rinse. An exhaust hood conveys water vapor from the cleaners, scrubber brushes and hot water rinse tanks.
- (d) One (1) chemical coater for applying non-organic coatings and one (1) gas-fired infrared oven for drying the applied non-organic coatings, identified as EU11, exhausting to Stack S-13. This chemical coater will create the debottleneck in the pretreatment section and will allow the coating line to operate at a maximum speed of 800 feet per minute.

## History

Precoat Metals Division of Sequa Coatings Corporation was issued a Part 70 permit (T127-6025-00005) on February 10, 1999. On November 29, 1999, Precoat Metals Division of Sequa Coatings Corporation submitted an application to the OAQ requesting to add a new chemical coater and an infra-red oven, identified as item (4) under Insignificant Activities.

These emission units were permitted in Source Modification 127-11613 which was issued on April 5, 2000. The installation of a new chemical coater which applies non-organic materials to the metal strip and a natural gas-fired infra-red oven to dry the non-organic surface treatments from this new chemical coater resulted in the debottleneck of the pretreatment section and will allow the existing coating line to operate from 600 feet per minute to a maximum speed of 800 feet per minute. **This issued source modification permit failed to account for the increase in the existing line capacity. The proposed Minor Source Modification SSM 127-12035 will address the increase in the existing line capacity.** The source has not operated based on the new line capacity.

## Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 29, 1999, and additional information was received on February 12, 2001; April 8, 2002; April 17, 2002. April 23, 2002, June 3, 2002; July 23, 2002 and December 6, 2002.

## Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Part 70 Operating Permit TV 127-6025-00005, issued on February 10, 1999;
- (b) First Significant Permit Modification SPM127-11786, issued on April 5, 2000;
- (c) First Administrative Amendment AA127-14061, issued on May 16, 2001; and
- (d) Second Administrative Amendment AA127-15225, issued on January 7, 2002.

## Emission Calculations

(a) Proposed Modification:

- (1) Coil Coating Line Emissions Due to Increase Utilization: See Page 1 of 2 TSD Appendix for the detailed emission calculations. The coil coating line has a 90% overall control efficiency.

$$\begin{aligned} \text{Future Potential to Emit Uncontrolled VOC} &= 6,147.95 \text{ tons/yr} \\ \text{Future Potential to Emit Controlled VOC} &= 6,147.95 \text{ tons/yr (1-0.90)} \\ &= 614.79 \text{ tons/yr} \end{aligned}$$

The existing coating line at its current capacity was not limited to avoid PSD review, Therefore, this modification which involves increase in utilization will not violate 326 IAC 2-2-8(3) and 40 CFR Part 52.21(r)(4).

(2) New Equipment:

Emission Due to New Infrared Oven: See Page 2 of 2 TSD Appendix A for detailed emission calculations.

Total Controlled Emission Increase Due to Modification:

$$\begin{aligned} \text{VOC} &= 614.79 \text{ tons/yr} + 0.2 \text{ ton/yr} \\ &= 614.99 \text{ tons/yr} \end{aligned}$$

(3) Modification Emissions:

Year	Lbs VOC Used	OCE of Coil Coating Line	VOC Emission (tons/year)
2001	3,021,297	85%	234.39
2000	3,110,239	85%	241.29
<b>Average Actual</b>			<b>237.84</b>

$$\begin{aligned} \text{Modification Emissions} &= \text{Future PTE - Past Actual} \\ &= 614.99 \text{ tons/yr} - 237.84 \text{ tons/yr} \\ &= 377.15 \text{ tons/yr} \end{aligned}$$

Since the modification (377.15 tons/yr) is major (>25 tons of VOC/yr), evaluation of the 5-year contemporaneous emission increase will be made. (Contemporaneous emission changes (increases) are based on actual emissions as stated in the New Source Review Manual Chapter III.B.2:

(b) Contemporaneous Period (1998 through 2003):

Increase in Emission - installed in January 2002:

- (1) Installation of a new 5.38 million British units per hour (mmBtu/hr) Regenerative

Thermal Oxidizer (RTO) that replaced an old RTO with a rating of 4.5 mmBtu/hr.

Increase in Emission:

$$5.38 \text{ mmBtu/hr} - 4.5 \text{ mmBtu/hr} = 0.88 \text{ mmBtu/hr}$$

$$\begin{aligned} \text{VOC} &= 0.88 \text{ mmBtu/hr} * \text{MMCF}/1000 \\ &\quad \text{mmBtu} * 8760 \text{ hrs/yr} * 5.5 \\ &\quad \text{lb/MMCF} * \text{ton}/2000 \text{ lb} \\ &= 0.02 \text{ ton/yr} \end{aligned}$$

$$\begin{aligned} \text{NOx} &= 0.88 \text{ mmBtu/hr} * \text{MMCF}/1000 \\ &\quad \text{mmBtu} * 8760 \text{ hrs/yr} * 100 \\ &\quad \text{lb/MMCF} * \text{ton}/2000 \text{ lb} \\ &= 0.4 \text{ ton/yr} \end{aligned}$$

$$\begin{aligned} \text{CO} &= 0.88 \text{ mmBtu/hr} * \text{MMCF}/1000 \\ &\quad \text{mmBtu} * 8760 \text{ hrs/yr} * 84 \\ &\quad \text{lb/MMCF} * \text{ton}/2000 \text{ lb} \\ &= 0.32 \text{ ton/yr} \end{aligned}$$

$$\begin{aligned} \text{(c) Net Emission VOC Increase} &= 377.15 + 0.02 \text{ ton} \\ &= 377.17 \text{ tons/yr} > 25 \text{ tons/yr,} \\ &\quad \text{therefore it is a major} \\ &\quad \text{modification.} \end{aligned}$$

(d) Limited VOC Emissions: The source requested to limit the project VOC emissions to less than 25 tons per year.

No fuel usage limit will be made for the infrared oven and the oxidizer since their VOC emissions of 0.2 ton/yr and 0.02 ton/yr are so small. However, their VOC emissions will be deducted from the total VOC limit of 25 tons/yr in order that 326 IAC 2-3 will not be applicable.

$$\begin{aligned} \text{Total Limited VOC Emissions} &= 237.84 \text{ tons/yr} + 24.5 \text{ tons/yr} \\ &= 262.34 \text{ tons/year} \end{aligned}$$

(e) Equivalent VOC Input Limit:

The limit will be established based on monthly, since the NSPS, Part 60.462, Subpart TT - Standards of Performance for Metal Coil Surface Coating requires compliance on a monthly basis.

Coil Coating Line overall control efficiency (OCE) as required by the NSPS - 90%

$$\begin{aligned} \text{Tons VOC Used/year} &= 262.34 \text{ tons/yr} * 1/(1-0.90) \\ &= 2,623.4 \text{ tons/year} \end{aligned}$$

## Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally

enforceable until it has been required in a federally enforceable permit.

Pollutant	*Uncontrolled Future Potential To Emit (tons/year)	Limited Potential To Emit From Modification (tons/year)
PM	0.0	0.0
PM-10	0.0	0.0
SO <sub>2</sub>	0.0	0.0
VOC	6,147.95	<25
CO	0.0	0.0
NO <sub>x</sub>	0.0	0.0

\* - Total from the entire coating line.

### Justification for Modification

- (a) The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification, 326 IAC 2-7-10.5(d)(5), since the VOC potential to emit is being limited to less than twenty-five (25) tons per year.
- (b) The Part 70 Permit is being modified under the Part 70 Permit Minor Permit Modification, 326 IAC 2-7-12(b), since the change does not qualify as an administrative amendment nor does it qualify as a significant permit modification.

### County Attainment Status

The source is located in Porter County.

Pollutant	Status
PM-10	unclassifiable
SO <sub>2</sub>	unclassifiable
NO <sub>2</sub>	attainment
Ozone	severe
CO	attainment
Lead	not designated

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Porter County has been designated as severe nonattainment for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Porter County has been classified as unclassifiable for PM10 and SO2, and attainment for the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Source Status

Existing Source PSD or Emission Offset Definition (based on the actual emissions taken from the Emission Inventory Report for the year 2000 and permits issued):

Pollutant	Emission Inventory Year 2000	Emissions Permitted in Source Modification 127-11613	TOTAL Emissions (tons/year)
PM	0.0	0.5	0.5
PM-10	1.0	2.1	3.1
SO <sub>2</sub>	0.0	0.165	0.165
VOC	241.29	1.51	242.80
CO	11	23.0	3.0
NO <sub>x</sub>	13	27.4	40.4

- (a) This existing source is a major stationary source because VOC, which is a severe nonattainment regulated pollutant is emitted at a rate of 25 tons per year or more, and it is not one of the 28 listed source categories.

#### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)					
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>
Proposed Modification	0.1	0.2	0.0	377.15	2.8	3.3
Contemporaneous Increases	0.0	0.0	0.0	0.02	0.3	0.4
Net Emission Increase	0.1	0.2	0.0	377.17	3.1	3.7
Project Limited VOC Emissions	0.0	0.0	0.0	< 25	0.0	0.0
VOC Deminimis Level	-	-	-	25	-	-
PSD Significant Levels	25	15	40	-	100	40
Coating Line's New PTE	0.1	0.2	0.0	*262.84	2.8	3.3

\* - Past 2 years average actual VOC emissions plus < 25 tons/year

- (a) This modification to an existing major stationary source is not major because the VOC emission, a severe non-attainment pollutant is limited to less than the Emission Offset significant level of 25 tons/yr. Therefore, pursuant to 326 IAC 2-3, the Emission Offset

requirements do not apply.

- (b) This modification to an existing major source is not major for PM, PM10, NOx, SO2, and CO because the emission increases are less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

### **Federal Rule Applicability**

- (a) New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60)
  - (1) 40 CFR 60.460, Subpart TT- Standards of Performance for Metal Coil Surface Coating, applies to each prime coat operation, each finish coat operation and each prime and finish coat operation combined in a metal coil coating operation that commences construction, modification or reconstruction after January 5, 1981. The prime coating operation and the finish coating operation of the proposed coil coating line modification are subject to this NSPS. This rule requires that Permittee shall not cause to be discharged into the atmosphere more than:
    - (A) 1.17 pounds per gallon of coating solids applied for each calendar month for 2-side, 2-coat, coating line that continuously uses a thermal oxidizer operated at the most recently demonstrated overall efficiency; or
    - (B) 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or
    - (C) 0.28 kilogram VOC per liter (kg VOC/l) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or
    - (D) A value between 0.14 (or a 90-per-cent emission reduction) and 0.28 kg VOC/liter of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.
- (b) There are no other New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (c) National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63)
  - (1) 40 CFR Part 63, Subpart SSSS - National Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil.  
This source is an existing major source for hazardous air pollutants (HAPs), and shall comply with this NESHAP three (3) years after June 3, 2002.
  - (2) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs)

### **State Rule Applicability -**

- (a) 326 IAC 1-6-3 (Preventive Maintenance Plan):  
The Permittee has submitted a Preventive Maintenance Plan (PMP) on June 3, 1996, which has been verified to satisfy the requirements of 326 IAC 1-6-3.
- (b) 326 IAC 2-3 (Emission Offsets)  
The Permittee has requested to limit the VOC input from this modification and the use of Regenerative and Recuperative Thermal Oxidizers, in order to restrict the VOC emissions to less than 25 tons per year, Therefore, this modification will not be subject



to the requirements of 326 IAC 2-3. See page 4 of this TSD for detailed VOC input limit.

- (c) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (d) 326 IAC 2-4.1-1 (New Source Toxics Rule)  
The New Source Toxics Control rule requires any new or reconstructed major source of hazardous air pollutants (HAPs) for which there are no applicable NESHAP to implement maximum achievable control technology (MACT), determined on a case-by-case basis, when the potential to emit is greater than 10 tons per year of any single HAP. 326 IAC 2-4.1-1 is not applicable, as there is no new equipment involved, and the source is subject to the NESHAP, 40 CFR Part 63, Subpart SSSS, and will comply with this NESHAP three (3) years after June 10, 2002.
- (e) 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes)  
The coil coating line is not subject to the requirements of this rule, as it uses roller coating method to apply the coatings to the coils. Roll coating application is exempted from the requirements of this rule.
- (f) 326 IAC 8-2-4 (Coil Coating Operations)  
326 IAC 8-2-4 establishes emission limitation for the coating of any flat metal sheet or strips that comes in rolls or coils. This rule requires that no owner or operator of a coil coating line subject to this section may cause, allow or permit the discharge into the atmosphere of any volatile organic compound (VOC) in excess of 2.6 pounds VOC per gallon of coating less water delivered to the coating applicator from prime and topcoat or single coat operations.

The Permittee proposes to comply with 326 IAC 8-2-4, using the compliance methods in 326 IAC 8-1-2, i.e. using Regenerative and Recuperative Thermal Oxidizers to limit the VOC to less than 2.6 pounds per gallon less water; therefore, meeting the requirements of 326 IAC 8-2-4.

- (g) 326 IAC 8-1-2 (Compliance Methods)  
Equivalent of the limit 2.6 lbs/gal < water in lbs/gal solids  
Pursuant to 326 IAC 8-1-2 (b) the equivalent emission limit, expressed as pounds of VOC per gallon coating solids, is determined as follows:

$$E = \frac{L}{1 - L/D}$$

Where: L = Applicable emission limit from this article in pounds of VOC per gallon of coating (2.6 lbs/gal < water),.  
D = Density of VOC in coating in pounds per gallon of VOC.  
E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.

A solvent density of seven and thirty-six hundredths (7.36) pounds of VOC per gallon of coating shall be used to determine equivalent pounds of VOC per gallon of solids for the applicable emission limit contained in this article. Actual solvent density shall be used to determine compliance of surface coating operations using the compliance methods contained in subsection (a) or section 5 of this rule.

$$\begin{aligned}\text{Therefore } E &= \frac{2.6}{1 - (2.6/7.36)} \\ &= 4.02 \text{ pounds of VOC per gallon coating solids as applied (this is the} \\ &\quad \text{equivalent of 2.6 lbs/gal < water in terms of lb/gal solids.}\end{aligned}$$

Using control to meet 2.6 lbs/gal < water

Pursuant to 326 IAC 8-1-2(c) the overall control efficiency of the thermal oxidizer shall be no less than the equivalent overall efficiency calculated by the following equation:

$$O = \frac{V - E}{V} \times 100$$

Where:

V = The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in 326 IAC 8-1-4 in units of pounds of VOC per gallon of coating solids as applied.

E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.

O = Equivalent overall efficiency of the capture system and control device as a percentage.

The source can either use multiple coatings or only 1 coating in a day. Therefore, the worst case as applied coating that can possibly be applied in a day was utilized in this calculation, instead of the daily volume weighted average of the coatings calculated in the spreadsheet (11.01 lb/gal solids):

Single worst case coating that can possibly be used in a day:

Density = 7.57 lb/gal

Volume solids = 22.5%

Weight % Organics = 75.9%

Lbs of VOC/Gal solids = 26.12 **7** (see Page 1 of 2 TSD App A for detailed calculations)

Required Overall Control Efficiency, Pursuant to 326 IAC 8-1-2:

$$\begin{aligned}O &= \frac{(26.12 - 4.02)}{26.12} \times 100 \\ &= 84.6 \% \text{ say } 85\%\end{aligned}$$

The source will comply with 326 IAC 2-3 using the minimum required 90% overall control efficiency in 326 IAC 2-3. Therefore, it satisfies 326 IAC 8-1-2, and 326 IAC 8-2-4.

- (h) 326 IAC 8-6-2 Organic Solvent Emission Limitation  
This coil coating line is not subject to 326 IAC 8-6-2, since the source was constructed in 1971 which, was before the October 7, 1974 applicability date of the rule.
- (i) 326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties: Emission Limits)  
This rule applies to stationary sources located in Lake, Porter, or Floyd County that emits or have the potential to emit volatile organic compounds (VOCs) at levels equal to or greater than twenty-five (25) tons per year in Lake and Porter Counties.

Although the source emits VOC greater than 25 tons per year, Section (a)(3) of this rule states that facilities subject to 326 IAC 8-2 are not subject to 326 IAC 8-7. Therefore, the

source is not subject to 326 IAC 8-7.

## Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

- (a) The Regenerative and Recuperative Thermal Oxidizers shall be in operation at all times the Prime Coating and Finish Coating Sections are in operation, except when the coatings applied are below the limits in 326 IAC 2-3, 326 IAC 8-2-4 and the NSPS, 40 CFR Part 60.460, Subpart TT.
- (b) Within 60 days after achieving the maximum production rate from the Coil Coating Line's increase utilization but no later than 180 days after initial startup of this modification, the Permittee shall perform VOC stack testing for the coil coating line and its controls, and establish the operating parameters needed to comply with 326 IAC 2-3, 326 IAC 8-1-2 and 326 IAC 8-2-4.
- (c) A continuous monitoring system shall be installed, calibrated, maintained, and operated on the recuperative and regenerative thermal oxidizers that continuously record the combustion temperature of any effluent gases incinerated to achieve compliance with the VOC emission limit in 40 CFR 60 Subpart TT. This system shall have an accuracy of  $\pm 2.5^{\circ}\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, which is greater.
- (d) The Permittee shall record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in the thermal oxidizers used to control VOC emissions from an affected facility remains more than  $28^{\circ}\text{C}$  ( $50^{\circ}\text{F}$ ) below the temperature at which compliance with limit in 40 CFR 60 Subpart TT, was demonstrated during the most recent measurement of thermal oxidizers efficiency. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizers at or above the hourly average temperature of  $1,150^{\circ}\text{F}$ .
- (e) The records required by 40 CFR 60.7 shall identify each such occurrence and its duration.

## Changes to the Part 70 Permit

The following are the changes to the Part 70 Permit 127-6025-00005 (changes are **bolded** and deletions are ~~struck through~~ for emphasis):

- (1) Section A.2 Emission Units and Pollution Control equipment Summary is modified to reflect the

changes:

- (1) One (1) coil coating line consisting of the following:
  - (a) A Prime Coating Section (PCS), constructed in 1971, consisting of one (1) prime coater, identified as EU1, with a maximum capacity of 883 pounds of VOC per hour (2.0 gal VOC/min), using one (1) ~~18.2 million British thermal units per hour (mmBtu/hr) recuperative thermal oxidizer~~ **5.38 million British thermal units per hour (mmBtu/hr) regenerative thermal oxidizer with waste heat boiler** identified as EU4/CE-1 as control, one (1) 33.6 mmBtu/hr prime curing oven, identified as EU2 exhausting to one (1) stack, identified as S-1 and one (1) prime water cooler, identified as EU3, exhausting to one (1) stack, identified as S-2. The regenerative thermal oxidizer exhausts to stack S-1 and the waste heat boiler will exhaust to stack S-14.
  - (b) A Finish Coating Section (FCS), constructed in 1971, consisting of one (1) finish coater, identified as EU5, with a maximum capacity of 1142 pounds of VOC per hour (3.75 gal/min) using one (1) ~~direct flame oxidizer, rated at 30 million British thermal units per hour~~ **18.2 mmBtu/hr recuperative thermal oxidizer** identified as EU8/CE-2, one (1) 37.6 mmBtu/hr finish curing oven, identified as EU6, all exhausting to one (1) stack, identified as EU6 all exhausting to one (1) stack, identified as S-3 and one (1) finish water cooler, identified as EU7, exhausting to one (1) stack, identified as S-4.
- ~~(a) One (1) natural gas-fired process boiler, identified as EU9, rated at 10.99 million British thermal units per hour, exhausting to Stack S-5.~~

- (2) The above change will also be reflected in Section D.1 Facility Description Box.

#### D.1. FACILITY OPERATION CONDITIONS

##### Facility description [326 IAC 2-7-5(15)]

- (1) One (1) coil coating line consisting of the following:
  - (a) A Prime Coating Section (PCS), constructed in 1971, consisting of one (1) prime coater, identified as EU1, with a maximum capacity of 883 pounds of VOC per hour (2.0 gal VOC/min), using one (1) ~~18.2 million British thermal units per hour (mmBtu/hr) recuperative thermal oxidizer~~ **5.38 million British thermal units per hour (mmBtu/hr) regenerative thermal oxidizer with waste heat boiler** identified as EU4/CE-1 as control, one (1) 33.6 mmBtu/hr prime curing oven, identified as EU2 exhausting to one (1) stack, identified as S-1 and one (1) prime water cooler, identified as EU3, exhausting to one (1) stack, identified as S-2. The regenerative thermal oxidizer exhausts to stack S-1 and the waste heat boiler will exhaust to stack S-14.
  - (b) A Finish Coating Section (FCS), constructed in 1971, consisting of one (1) finish coater, identified as EU5, with a maximum capacity of 1142 pounds of VOC per hour (3.75 gal/min) using one (1) ~~direct flame oxidizer, rated at 30 million British thermal units per hour~~ **18.2 mmBtu/hr recuperative thermal oxidizer** identified as EU8/CE-2, one (1) 37.6 mmBtu/hr finish curing oven, identified as EU6, all exhausting to one (1) stack, identified as EU6 all exhausting to one (1) stack, identified as S-3 and one (1) finish water cooler, identified as EU7, exhausting to one (1) stack, identified as S-4.

(The information describing the process contained in this facility description box is descriptive information only and does not constitute enforceable conditions)

- (3) The following condition will be modified to incorporate the applicable requirements from the Minor Source Modification 127-12035. Some existing conditions will be renumbered.

### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

#### **D.1.1 Emission Offset [326 IAC 2-3]**

The VOC input usage from both the Prime Coating Section and Finish Coating Section shall be limited to 2,623.4 tons per twelve consecutive month period, with compliance demonstrated at the end of each month. The Coil Coating Line's capture system, and Recuperative and Regenerative Thermal Oxidizers shall be operated at 90% overall control efficiency. This VOC usage limitation in conjunction with the operation of the Coil Coating Line's capture system, and Recuperative and Regenerative Thermal Oxidizers at 90% overall control efficiency shall restrict the VOC emissions to less than 262.34 tons per twelve consecutive month period. Compliance with these limits shall make 326 IAC 2-3, Emission Offset rules not applicable.

#### **D.1.4 2 Coil Coating Operations [326 IAC 8-2-4] [326 IAC 8-1-2]**

- (a) Pursuant to OP No. 3420-0005-0262, issued on October 31, 1990 and 326 IAC 8-2-4 (Coil Coating Operations), the VOC discharged into the atmosphere from the coil coating line shall not exceed of 0.31 kilograms per liter of coating (2.6 pounds per gallon) excluding water.
- (b) When operating either the recuperative thermal oxidizer, identified as EU4/CE-1 and/or the direct flame finish oxidizer, identified as EU8/CE-2 for VOC control as required by 326 IAC 8-1-2 (a)(2) to achieve the above limit in (a) for rule 326 IAC 8-2-4, a minimum overall control efficiency of 74.00% must be maintained. Based upon 326 IAC 8-1-2(c) and the overall control efficiency of 74.00%, the daily weighted average VOC content of all the coatings shall not exceed 15.46 pounds of VOC per gallon of coating solids as applied.
- (a) Pursuant to 326 IAC 8-2-4 (Coil Coating Operations), the Permittee shall not allow the discharge into the atmosphere of any volatile organic compound (VOC) in excess of 0.31 kilogram per liter of coating (2.6 pound per gallon) excluding water, delivered to the coating applicator from Prime Coating and Finish Coating operations.
- (b) Pursuant to 326 IAC 8-1-2(b), the coil coating line (Prime Coating and Finish Coating Operations) shall be limited to no greater than the equivalent limit of 4.02 pounds of VOC per gallon of coating solids as allowed in (a) of this condition. This equivalent limit shall be determined using the following equation:

$$E = \frac{L}{1 - L/D}$$

Where: L = Applicable emission limit from this article in pounds of VOC per gallon of coating.

D = Density of VOC in coating in pounds per gallon of VOC.

E = Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.

- (c) Pursuant to 326 IAC 8-1-2(c) the overall control efficiency of the thermal oxidizer shall be no less than the equivalent overall efficiency of 85% and the daily weighted average VOC content of all the coatings applied shall not exceed 26.12 pounds per gallon solids. This overall efficiency shall however, be satisfied by the overall efficiency of 90% required in Condition D.1.1 to avoid the applicability of

**326 IAC 2-3, Emission Offset rules. 326 IAC 8-1-2(c) required overall efficiency shall be calculated using the following equation:**

$$O = \frac{V - E}{V} \times 100$$

**Where:**

**V =** The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in 326 IAC 8-1-4 in units of pounds of VOC per gallon of coating solids as applied.

**E =** Equivalent emission limit in pounds of VOC per gallon of coating solids as applied.

**O =** Equivalent overall efficiency of the capture system and control device as a percentage.

- (4) The following condition will be deleted in the permit since roller coating does not emit particulate overspray.

**~~D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]~~**

~~The PM from the coil coating line shall not exceed the pound per hour emission rate established as E in the following formula:~~

~~Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:~~

~~$$E = 4.10 P^{0.67}$$
 where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour~~

**~~D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]~~**

~~A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the coil coating line and any control devices.~~

**~~General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]~~**

~~The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facility described in this section except when otherwise specified in 40 CFR 60, Subpart TT.~~

**~~D.1.4 Nonapplicable Requirements [326 IAC 2-7-15(a)(2)]~~**

~~The requirements that are not applicable to this coil coating line in accordance with Section B - Permit Shield, of this permit and 326 IAC 2-7-15 have been determined to be as follows:~~

- ~~(a) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 63) applicable to this coil coating operation. As of permit issuance, there is no NESHAP applicable for coil coating operations.~~
- ~~(b) This coil coating line is not subject to 326 IAC 8-6-2, since the source was constructed in 1971, which was before the October 7, 1974 applicability date of the rule.~~
- ~~(c) This coil coating line is not subject to 326 IAC 8-7. Even though the source has potential emissions greater than ten (10) tons per year, since the coil coating line is subject to 326 IAC 8-2-4, it is therefore, not subject to the requirements of 326 IAC 8-7.~~
- ~~(d) This coil coating line is not subject to 326 IAC 12-1-1 and 40 CFR 60, Subpart TT - Standards of Performance for Metal Coil Surface Coating, since the line was constructed in 1971, and has not been reconstructed or modified after the January 5, 1981 applicability date of the rule.~~

**Metal Coil Surface Coating NSPS [326 IAC 12-1-1] [40 CFR 60, Subpart TT]**

**This Coil Coating Line (Prime Coating and Finish Coating Operations) is subject to 40 CFR**

**60, Subpart TT, which is incorporated by reference in 326 IAC 12-1-1. The Permittee shall not cause to be discharged into the atmosphere greater than:**

- (a) 0.14 kilogram VOC per liter of coating solids (1.17 pounds per gallon) applied for each calendar month for the Prime Coating and Finish Coating Operations that continuously use a thermal oxidizer operated at the most recently demonstrated overall efficiency; or**
- (b) 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device operated at the most recently demonstrated overall efficiency;**
- (c) 0.28 kilogram VOC per liter (kg VOC/l) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or**
- (d) A value between 0.14 (or a 90-per-cent emission reduction) and 0.28 kg VOC/l of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.**

**Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

**D.1.5 Testing Requirements [326 IAC 8-1-4] [326 IAC 2-7-6(1)] [326 IAC 2-1.1-11]**

~~Compliance stack tests shall be performed within 60 days upon installation of the regenerative thermal oxidizer, but no later than June 30, 2002. The tests shall be made on the coil coating line, consisting of the prime coating section, identified as EU1 with its regenerative thermal oxidizer, identified as EU4/GE-1 and the finish coating section, identified as EU5 with its recuperative thermal oxidizer, identified as EU8/GE-2 according to 326 IAC 3-6 (Source Sampling Procedures) using the methods specified in the rule or using other methods as approved by the Commissioner to demonstrate compliance with 326 IAC 8-2-4 (Surface coating emission limitations: coil coating operations). This test shall be repeated at least once every two and one-half (2.5) years from the date of this valid compliance demonstration. In addition to this requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.~~

**Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

**A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the coil coating line and any control devices.**

**D.1.6 Volatile Organic Compounds (VOC)**

~~Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.~~

**National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63)**

**Pursuant to 40 CFR Part 63, Subpart SSSS - National Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil, the source is an existing major source for hazardous air pollutants (HAPs), and shall comply with this NESHAP three (3) years after June 3, 2002.**

**D.1.7 Monitoring (326 IAC 8-2-4)**

- (a) The recuperative thermal oxidizer, identified as EU4/GE-1 and the direct flame finish oxidizer, identified as EU8/GE-2 for VOC control shall be in operation at all times when**

- 
- necessary to comply with the emission limitation specified in Condition D.1.1.
- 
- (b) When operating, both the recuperative thermal oxidizer, identified as EU4/GE-1 and the direct flame finish oxidizer, identified as EU8/GE-2 shall maintain a minimum operating temperature of 1,150°F for the recuperative thermal oxidizer and 1,200°F for the direct flame finish oxidizer or a minimum temperature, fan amperage and duct velocity as determined by the compliance tests required in Conditions D.1.7. These minimum operating temperatures are required in order to maintain a minimum destruction efficiency of 86.02% and a minimum capture efficiency of 86.02%.
- 
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- 
- (d) The owner or operator shall install, calibrate, operate and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with 0.31 kilograms per liter of coating excluding water (2.6 pounds per gallon).
- 
- (1) This device shall have an accuracy of  $\pm 2.5^\circ\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, which is greater.

---

#### **Regenerative and Recuperative Thermal Oxidizers**

The Regenerative and Recuperative Thermal Oxidizers shall be in operation at all times the Prime Coating and Finish Coating Sections are in operation, except when the coatings applied are below the limits in 326 IAC 2-3, 326 IAC 8-2-4 and the NSPS, 40 CFR Part 60.460, Subpart TT.

---

#### **D.1.8 Thermal Oxidizer**

The Permittee shall install calibrate, operate and maintain a device that continuously records the combustion temperature of any effluent gases incinerated to achieve compliance with the VOC limits in conditions D.1.1 and D.1.2. This system shall have an accuracy of  $\pm 2.5^\circ\text{C}$  or  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius, whichever is greater.

---

#### **D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

- (a) Within sixty (60) days after achieving the maximum production rate from the Coil Coating Line's increase utilization but no later than 180 days after initial startup of this modification, the Permittee shall conduct compliance stack test to verify the Coating Line's VOC emissions, capture system and its Regenerative and Recuperative Thermal Oxidizers control efficiencies used to attain compliance with the VOC limits in conditions D.1.1, D.1.2 and D.1.4 using methods as approved by the Commissioner. This test shall be repeated at least once every two and half (2.5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing of the Part 70 Permit.
- (b) The Permittee shall establish the hourly average temperature, minimum operating temperature, duct pressure and fan amperage for the Regenerative and Recuperative Thermal Oxidizers from the most recent compliance stack test used to attain compliance with the VOC limits in conditions D.1.1, D.1.2 and D.1.4.

---

#### **D.1.10 Testing Requirements [326 IAC 12] [40 CFR 60.463]**

- (a) The Permittee shall conduct an initial performance test as required under 40 CFR 60.8(a) within 60 days after achieving the maximum production rate from the Coil



**Coating Line's increase utilization but no later than 180 days after initial startup of this modification and such other times as maybe required by the Administrator or**

**IDEM, OAQ under section 114 of the Act and thereafter a performance test for each calendar month for each affected facility according to the procedures under condition D.1.10(b), (c), (d), and (e). Note: Each monthly calculation is a performance test.**

- (b) The Permittee shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's to comply with the emission limit specified under conditions D.1.1, D1.2 and D.1.4(a) and (b):

- (1) determine the overall reduction efficiency (R) for the capture system and the control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in paragraphs (b) (1), (2), and (3) of this section. In subsequent months, the Permittee may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in paragraphs (b)(1)A), and (3) of this section, shall be repeated when directed by the Administrator, IDEM, OAQ or when the Permittee elects to operate the control device or capture system at conditions different from the initial performance test.

- (A) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^I C_{bi} Q_{bi}}{\sum_{i=1}^I C_{bi} Q_{bi} + \sum_{i=1}^P C_{fi} Q_{fi}}$$

Where:

$C_b$  = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).

$Q_b$  = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).

$C_{fi}$  = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).

$Q_{fi}$  = the volumetric flow rate of each gas stream emitted directly to the atmosphere.

$I$  = the number of gas streams entering the control device, and

$p$  = the number of gas streams emitted directly to the atmosphere.

- (B) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^n C_{bi} Q_{bi} - \sum_{i=1}^m C_{ai} Q_{ai}}{\sum_{i=1}^n C_{bi} Q_{bi}}$$

$$\sum_{i=1}^n C_{bi} Q_{bi}$$

**Where:**

$C_a$  = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).

$Q_a$  = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).

$n$  = the number of gas streams entering the control device, and

$m$  = the number of gas streams leaving the control device and entering the atmosphere.

The Permittee shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in § 60.466.

- (C) Determine overall reduction efficiency (R) using the following equation:

$$R = EF$$

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as specified in sections (c) and (d) below.

- (2) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month for each affected facility, using equations in paragraphs (c)(1)(A), (B) and (C) of 40 CFR 60.463 as follows:

- (A) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

**Where:**

$M_o$  = Mass of VOC's in coatings consumed, as received in kilogram (kg)

$M_d$  = Mass of VOC-solvent added to the coatings, in kg

$L_c$  = the volume of each coating consumed, as received in liters

$L_d$  = the volume of each VOC-solvent added to the coatings in liters (l)

$W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)

$D_d$  = density of each VOC-solvent added to the coatings (kg/l)

$\sum L_{dj} D_{dj}$  = will be 0 if no VOC solvent is added to the coatings, as received

**n = the number of different coatings used during calendar month, and**

**m = the number of different VOC solvents added to coatings used during the calendar month.**

- (B) Calculate the total volume of coating solids used (L<sub>s</sub>) in each calendar month for each affected facility by the following equation:**

$$L_s = \sum_{i=1}^n V_{si} L_{ci}$$

**Where:**

**V<sub>s</sub> = the proportion of solids in each coating, as received (fraction by volume).**

**L<sub>c</sub> = the volume of each coating consumed, as received in liters**

**L<sub>s</sub> = total volume of solids used in a calendar month**

**n = the number of different coatings used during the calendar month.**

- (C) Calculate the volume-weighted average mass of VOC's used per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:**

$$G = \frac{M_o + M_d}{L_s}$$

- (3) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:**

$$N = G (1-R)$$

- (4) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/l of coating solids applied, the affected facility is in compliance . Each monthly calculation is a performance test.**

- (c) The Permittee shall use the following procedures for each affected facility that does not use a capture system and control device to comply with the emission limit specified under D.1.4(c) of this permit:**

- (1) determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Method 24. The Administrator may require the Permittee who uses formulation data supplied by the manufacturer of the coatings to determine the VOC content of coatings using Method 24 or an equivalent or alternative method. The Permittee shall determine the volume of coating and the mass of VOC solvent added to coatings from company records on a monthly basis.**
- (2) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied during each calendar month for each affected facility, except as provided under paragraph (c)(1)(iv) of 40 CFR 60.463. The weighted average of the total mass of VOC's used per unit volume of coating solids applied each calendar month is determined as follows:**

**(A) Calculate the mass of VOC's used ( $M_o + M_d$ ) during each calendar**

month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

Where:

$M_o$  = Mass of VOC's in coatings consumed, as received in kilogram (kg)

$M_d$  = Mass of VOC-solvent added to the coatings, in kg

$L_c$  = the volume of each coating consumed, as received in liters

$L_d$  = the volume of each VOC-solvent added to the coatings in liters (l)

$W_o$  = the proportion of VOC's in each coating, as received (fraction by weight)

$D_d$  = density of each VOC-solvent added to the coatings (kg/l)

$\sum L_{dj} D_{dj}$  = will be 0 if no VOC solvent is added to the coatings, as received

$n$  = the number of different coatings used during calendar month, and

$m$  = the number of different VOC solvents added to coatings used during the calendar month.. The weighted average of the total mass of VOC's used per unit volume of coating solids applied each calendar month is determined by the following procedures.

**(B) Calculate the total volume of coating solids used ( $L_s$ ) in each calendar**

month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n V_{si} L_{ci}$$

Where:

$V_s$  = the proportion of solids in each coating, as received (fraction by volume).

$L_c$  = the volume of each coating consumed, as received in liters

$L_s$  = total volume of solids used in a calendar month

$n$  = the number of different coatings used during the calendar month.

**(C) Calculate the volume-weighted average mass of VOC's used per unit volume of coating solids applied ( $G$ ) during the calendar month for each affected facility by the following equation:**

$$G = \frac{M_o + M_d}{L_s}$$

**(3) Calculate the volume-weighted average of VOC emissions to the**

atmosphere (N) during the calendar month for each affected facility by the following equation:

$$N = G$$

- (4) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.28 kg/l the affected facility is in compliance.
  - (5) If each individual coating used by an affected facility has a VOC content, as received, that is equal to or less than 0.28 kg/l of coating solids, the affected facility is in compliance provided no VOC 's are added to the coatings during distribution or application.
- (d) The Permittee shall use the following procedures for each affected facility that intermittently uses a capture system and a control device to comply with the emission limit specified in Conditions D.1.1 , D.1.2 and D.1.4(d):
- (1) Calculate the total volume of coating solids applied without the control device in operation ( $L_{sn}$ ) during each calendar month for each affected facility using the following equation:

$$L_{sn} = \sum_{i=1}^n V_{si} L_{ci}$$

Where:

- $n$  = the number of coatings used during the calendar month without the control device in operation.  
 $V_s$  = the proportion of solids in each coating, as received (fraction by volume).  
 $L_c$  = the volume of each coating consumed, as received in liters

- (2) Calculate the total volume of coating solids applied with the control device in operation ( $L_{sc}$ ) during each calendar month for each affected facility using the following equation:

$$L_{sc} = \sum_{i=1}^n V_{si} L_{ci}$$

- (3) Calculate the mass of VOC's used without the control device in operation ( $M_{on} + M_{dn}$ ) during each calendar month for each affected facility using the following equation:

$$M_{on} + M_{dn} + \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{di}$$

Where:

- $M_o$  = the mass of VOC's in coatings consumed, as received (kg)  
 $M_d$  = the mass of VOC-solvent added to coatings (kg)  
 $L_c$  = the volume of each coating consumed, as received (liters)  
 $D_c$  = density of each coating, as received (kg/liter)  
 $W_o$  = the proportion of VOC's in each coating, as received

(fraction by weight)

- $n$  = the number of different coatings used without the control device in operation during the calendar month  
 $m$  = number of different VOC-solvents added to coatings used without the control device in operation during the calendar month

- (4) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied without the control device in operation ( $G_n$ ) during each calendar month of each affected facility using the following equation:

$$G_n = \frac{M_{on} + M_{dn}}{L_{sn}}$$

- (5) Calculate the mass of VOC's used with the control device in operation ( $M_{oc} + M_{dc}$ ) During each calendar month for each affected facility using the following equation:

$$M_{oc} + M_{dc} = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{di}$$

- (6) Calculate the volume-weighted average of the total mass of VOC's used per unit volume of coatings solids applied with the control device in operation ( $G_c$ ) during each calendar month for each affected facility using the following equation:

$$G_c = \frac{M_{oc} + M_{dc}}{L_{sn}}$$

- (7) Determine the overall reduction efficiency ( $R$ ) for the capture system and control device using the procedures in paragraphs (c)(2)(i) (A), (B) and (C) or paragraphs (c)(3) (i), (ii), and (iii) of 60.463 whichever is applicable.

- (8) Calculate the volume-weighted average of VOC emissions to the atmosphere ( $N$ ) during each calendar month for each affected facility using the following equation:

$$N = \frac{G_n L_{sn} + G_c L_{sc} (1-R)}{L_{sn} + L_{sc}}$$

- (9) Calculate the emission limit for each calendar month for each affected facility using the following equation:

$$S = \frac{0.28 L_{sn} + 0.1 G_c L_{sc}}{L_{sn} + L_{sc}}$$

Or

$$S = \frac{0.28 L_{sn} + 0.14 L_{sc}}{L_{sn} + L_{sc}}$$

whichever is greater

- (10) If the volume weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to the calculated emission limit (S) for the calendar month, the affected facility is in compliance. Each month calculation is a performance test.

#### D.1.11 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Condition D.1.1, D.1.2 and D.1.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

#### D.1.12 Monitoring

- (a) Pursuant to 326 IAC 2-3, Emission Offset requirements in Condition D.1.1, a continuous monitoring system shall be calibrated, maintained, and operated on the Recuperative and Regenerative Thermal Oxidizers for measuring operating temperature. The output of this system shall be recorded as an hourly average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall operate the thermal oxidizer at or above the hourly average temperature of 1299 °F and 1636 °F respectively.
- (b) Pursuant to 326 IAC 12-1-1 and 40 CFR 60, Subpart TT, The Permittee shall record all period (during actual coating operations) in excess of 3 hours during which the average temperature in the Recuperative and Regenerative Thermal Oxidizers used to control VOC emissions from an affected facility remains more than 28 °C (50 °F) below the temperature at which compliance with VOC limits in D.1.2 and D.1.4 was demonstrated during the most recent measurement of the Recuperative and Regenerative Thermal Oxidizers efficiencies. Until a compliance stack test is performed, the Permittee shall operate these oxidizers at or above the 3 hour average temperature of 1299 °F and 1636 °F respectively, determined in the June 2002 stack test.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

#### ~~D.1.8 Record Keeping Requirements [326 IAC 8-1-2] [326 IAC 12-1-1] [40 CFR 60, Subpart TT]~~

- ~~(a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.~~

~~(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;~~

~~(2) A log of the dates of use;~~

~~(3) The volume weighted VOC content of the coatings used for each day that any coating with VOC content greater than 2.6 pounds per gallon is used, by:~~

$$\frac{\text{lb VOC}}{\text{gallon less water}} = \frac{3 \text{ coatings } [Dc * O * Q / (1 - W * Dc / Dw)]}{3C}$$

~~Dc = density of coating, lb/gal Dw = density~~

\_\_\_\_\_ of water, lb/gal  
\_\_\_\_\_  $O$  = weight percent organics, % \_\_\_\_\_  $Q$  = quantity of coating, gal/unit  
\_\_\_\_\_  $W$  = percent volume of water, % \_\_\_\_\_  $C$  = total of coatings used, gal/unit

\_\_\_\_\_ (4) \_\_\_\_\_ The cleanup solvent usage for each month;

\_\_\_\_\_ (5) \_\_\_\_\_ The total VOC usage for each month; and

\_\_\_\_\_ (6) \_\_\_\_\_ The weight of VOCs emitted for each compliance period.

(b) \_\_\_\_\_ To document compliance with Conditions D.1.1 and D.1.8, the Permittee shall record the dates and times, on an hourly basis, of all periods of startup and shutdown of the recuperative thermal oxidizer, identified as EU4/CE-1 and the direct flame finish oxidizer, identified as EU8/CE-2.

\_\_\_\_\_ (c) \_\_\_\_\_ To document compliance with Conditions D.1.1 and D.1.8, the Permittee shall record the dates and times, on an hourly basis, of all periods of changeout of coatings when the recuperative thermal oxidizer, identified as EU4/CE-1 and the direct flame finish oxidizer, identified as EU8/CE-2 are not being used.

\_\_\_\_\_ (d) \_\_\_\_\_ To document compliance with Conditions D.1.1 and D.1.8, the Permittee shall also record all periods (during actual coating operations) in excess of three (3) hours during which the average temperature in EU4/CE-1 or EU8/CE-2 (the oxidizers used to control emissions) remains more than 28EC (50EF) below the temperature at which compliance with 0.31 kilograms per liter of coating excluding water (2.6 pounds per gallon) was demonstrated during the most recent measurement of oxidizer efficiency required by D.1.7. The records shall identify each such occurrence and its duration.

\_\_\_\_\_ (e) \_\_\_\_\_ All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**D.1.13 Record Keeping Requirements [326 IAC 8-1-2] [326 IAC 12] [40 CFR 60.465]**

(a) \_\_\_\_\_ To document compliance with Conditions D.1.1, D.1.2 and D.1.4, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1, D.1.2 and D.1.4.

(1) \_\_\_\_\_ The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) \_\_\_\_\_ A log of the dates of use;

(3) \_\_\_\_\_ The cleanup solvent usage for each month;

(4) \_\_\_\_\_ The total VOC usage for each month; and

(5) \_\_\_\_\_ The weight of VOCs emitted for each compliance period.

(b) \_\_\_\_\_ **Following the initial performance test, the Permittee shall identify, and record every calendar quarter of each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under D.1.4. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to IDEM, OAQ, quarterly.**



- (c) **The continuous temperature records (on an hourly average basis) for the thermal oxidizers used to demonstrate compliance with the limits in D.1.1 and D.1.2 as determined during the most recent compliance stack test.**
- (d) **Daily records of the duct pressure or fan amperage.**
- (e) **The Permittee shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. The Permittee shall maintain, at the source, daily records of the thermal oxidizer combustion temperature.**
- (f) **To document compliance with Condition D.1.12(b), the Permittee shall also record all periods (during actual coating operations) in excess of three (3) hours during which the average temperature in EU4/CE-1 or EU8/CE-2 (the oxidizers used to control emissions) remains more than 28EC (50EF) below the temperature at which compliance with the limits in D.1.4 was demonstrated during the most recent measurement of oxidizer efficiency. The records shall identify each such occurrence and its duration.**
- (g) **All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

#### **D.1.14 Reporting Requirements**

---

- (a) **Pursuant to 326 IAC 2-3, a quarterly summary of the information to document compliance with Condition D.1.1 shall be submitted using the reporting forms located at the end of this permit or their equivalent within thirty (30) days after the end of each quarter being reported to the following address:**  
  
**Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015**
- (b) **Pursuant to 326 IAC 12-1-1 and 40 CFR 60, Subpart TT -Metal Coil Surface Coating NSPS, the Permittee shall submit a quarterly summary of the following information within thirty (30) days after the end of each quarter being reported to the following address:**  
  
**Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015**
  - (1) **Where compliance with the numerical limit specified in D.1.4(c) is achieved through the use of low VOC-content coatings without emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this subpart shall include in the initial compliance report required by § 60.8 the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility.**
  - (2) **Where compliance with the numerical limit specified in D.1.4(d) is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.**

- (3) Following the initial performance test, the Permittee shall identify, record, and submit a written report to the OAQ every calendar quarter of each

instance in which the volume-weighted average of the local mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under Condition D.1.4. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the OAQ quarterly.

- (4) The Permittee shall include in the quarterly reports, instances when the thermal oxidizer temperature drops as defined under D.1.12. If no such periods occur, the owner or operator shall state this in the report.
- (5) Pursuant to 40 CFR 60.465, The Permittee subject to the provisions of this subpart shall include the following data in the initial compliance report required by 40 CFR 60.8:
- (A) The overall VOC destruction rate used to attain compliance with D.1.4; and
- (B) The combustion temperature of the thermal incinerator, used to attain compliance with condition D.1.4.

- (5) The following Report Form is added in the Part 70 permit:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Minor Source Modification Quarterly Report**

Source Name: Precoat Metals Division Sequa Coatings Corporation  
Source Address: U. S. Highway 12 and Route 249, Portage, Indiana 46368  
Mailing Address: 4800 South Kilbourn Avenue, Chicago, Illinois 60632  
Part 70 Permit No.: T127-6025-00005  
Facility: Coil Coating Line  
Parameter: VOC Usage  
Limit: 2,623.4 tons per twelve consecutive month period, with compliance demonstrated at the end of each month  
QUARTER \_\_\_\_\_ YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_

Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed **Part 70 Minor Source Modification No. 127-12035, and Minor Permit Modification 127-17115.**

**Appendix A: Emissions Calculations****Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boiler****Company Name:** Precoat Metals Division Sequa Corporation**Address City IN Zip:** U.S. Highway 12 an Route 249, Portage, Indiana 46368**MSM:** 127-12035**Pit ID:** 127-00005**Reviewer:** Aida De Guzman**Date Application Received:** March 15, 2000Heat Input Capacity  
MMBtu/hrPotential Throughput  
MMCF/yr

7.5

65.7

'Infrared oven

**Pollutant**

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.1	0.2	0.0	3.3	0.2	2.8

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

## Page 2 of 2 TSD App A

**Date Application Received:** March 15, 2000

[illegible]

1.03 lb/gal < 1.16 lb/gal solids (it complies)

The maximum process loading occurs on item 2 and that is where the maximum PTE comes from.

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) (24 hr/day)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \* (8760 hrs/yr) \* (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Total = Worst Coating + Sum of all solvents used